

IN THE CLAIMS:

1. (Currently Amended) An isolated antibody that ~~selectively~~ binds to a polypeptide selected from the group consisting of:

a) a polypeptide encoded by a nucleic acid molecule which hybridizes in 0.1 x SSC at 68°C to a nucleic acid molecule ~~comprising~~ consisting of SEQ ID NO:1, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in Drosophila, and 3) hypomorphic expression of the polypeptide increases resistance to heat stress in Drosophila; and

b) a polypeptide ~~comprising~~ consisting of an amino acid sequence which is at least 85% homologous to the amino acid sequence of SEQ ID NO:2, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in Drosophila, and 3) hypomorphic expression of the polypeptide increases resistance to heat stress in Drosophila, wherein the antibody binds to the amino acid sequence that is at least 85% homologous to SEQ ID NO:2, and

~~c) a polypeptide comprising amino acid residues 1 to 200 of SEQ ID NO:2.~~

2. (Original) The antibody of claim 1, wherein the antibody is polyclonal.

3. (Original) The antibody of claim 1, wherein the antibody is monoclonal.

4-8. (Canceled)

11 9. (Currently Amended) An isolated antibody or fragment thereof that ~~selectively~~ binds to:

- a) a polypeptide ~~comprising~~ consisting of SEQ ID NO:2;
- b) a polypeptide ~~comprising~~ consisting of amino acid residues 1 to 200 of SEQ ID NO:2;
- c) a polypeptide consisting of an antigenic fragment of SEQ ID NO:2; or
- d) a polypeptide consisting of a fragment of SEQ ID NO:2, ~~wherein said fragment comprises~~ of at least 50 contiguous amino acid residues of SEQ ID NO:2, wherein the antibody or fragment thereof binds to the amino acid sequence of SEQ ID NO:2.

- 5 ~~10~~. (Previously Presented) The antibody of claim ~~9~~<sup>4</sup>, which is a monoclonal antibody.
- 6 ~~11~~. (Previously Presented) The antibody of claim ~~9~~<sup>4</sup>, which is a polyclonal antibody.
- 7 ~~12~~. (Previously Presented) The antibody of claim ~~9~~<sup>4</sup>, which is a humanized antibody.
- 8 ~~13~~. (Previously Presented) The antibody or fragment thereof of claim ~~9~~<sup>4</sup>, which is a human antibody.
- 9 ~~14~~. (Previously Presented) The antibody or fragment thereof of claim ~~9~~<sup>4</sup>, which is a single chain antibody.
- 14 ~~15~~. (Currently Amended) A composition comprising the antibody of claims 1, ~~8~~<sup>4</sup>, ~~17~~<sup>10</sup>, ~~18~~<sup>11</sup>, ~~19~~<sup>12</sup> or ~~20~~<sup>13</sup> ~~ex-9~~ and a pharmaceutically acceptable carrier.

- 15/16. (Currently Amended) A hybridoma cell line that produces an monoclonal antibody according to claim 1, ~~8, 18, 19~~ or ~~20~~ or 13 or 17.
- 10/17. (Currently Amended) An isolated antibody or fragment thereof produced by immunizing an animal with a composition comprising a polypeptide selected from the group consisting of:
- a) a polypeptide ~~comprising~~ consisting of SEQ ID NO:2;
  - b) a polypeptide ~~comprising~~ consisting of amino acid residues 1 to 200 of SEQ ID NO:2;
  - c) a polypeptide consisting of an antigenic fragment of SEQ ID NO:2; or
  - d) a polypeptide consisting of a fragment of SEQ ID NO:2, ~~wherein said fragment comprises~~ of at least 50 contiguous amino acid residues of SEQ ID NO:2, wherein the antibody specifically binds to the polypeptide comprising SEQ ID NO:2.
- 11/18. (Currently Amended) An isolated antibody that binds to a polypeptide consisting of the ~~produced by immunizing an animal with a polypeptide having an amino acid sequence as set forth in SEQ ID NO:2, which antibody specifically binds to the~~ polypeptide.
- 12/19. (Currently Amended) An isolated antibody that ~~selectively~~ binds the hydrophilic domain of an mth polypeptide between hydrophobic domains five and six of SEQ ID NO:2.
- 13/20. (Currently Amended) An isolated antibody that ~~selectively~~ binds to a ~~polypeptide comprising~~ amino acids 407-420 of SEQ ID NO:2, ~~wherein the antibody selectively binds to the polypeptide consisting of amino acids 407-420 of SEQ ID NO:2.~~

21. (Canceled)

16 22. <sup>4</sup> <sup>10</sup> <sup>11</sup> <sup>12</sup> <sup>13</sup> (Currently Amended) A kit comprising an antibody of claim  
1, ~~8~~, ~~17~~, ~~18~~, ~~19~~, or ~~20~~ which selectively binds to:  
a) ~~a polypeptide comprising SEQ ID NO:2;~~  
b) ~~a polypeptide comprising amino acid residues 1 to 200~~  
~~of SEQ ID NO:2;~~  
c) ~~a polypeptide consisting of an antigenic fragment of~~  
~~SEQ ID NO:2; or~~  
~~d) a polypeptide consisting of a fragment of SEQ ID NO:2,~~  
~~wherein said fragment comprises at least 50 contiguous amino~~  
~~acid residues of SEQ ID NO:2.~~